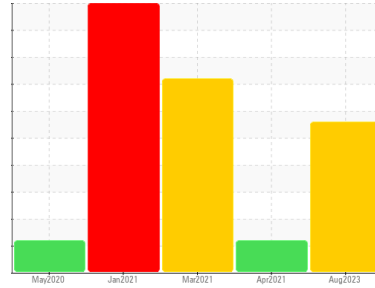




OIL ANALYSIS REPORT

Sample Rating Trend



GLYCOL



Machine Id
OR343
Component
Diesel Engine
Fluid
PETRO CANADA DURON HP 15W40 (--- GAL)

DIAGNOSIS

Recommendation

We advise that you check for the source of the coolant leak. The oil change at the time of sampling has been noted. We recommend an early resample to monitor this condition. No other corrective action is recommended at this time.

Wear

Copper ppm levels are abnormal. Bearing wear is indicated.

Contamination

Test for glycol is positive. Light fuel dilution occurring. There is a light concentration of glycol present in the oil. No other contaminants were detected in the oil.

Fluid Condition

The oil is no longer serviceable as a result of the abnormal and/or severe wear.

SAMPLE INFORMATION

method	limit/base	current	history1	history2
Sample Number	Client Info	GFL0092257	GFL0010898	GFL0010910
Sample Date	Client Info	21 Aug 2023	28 Apr 2021	10 Mar 2021
Machine Age	hrs	15462	0	12385
Oil Age	hrs	500	0	1
Oil Changed	Client Info	Changed	N/A	Not Changd
Sample Status		ABNORMAL	ABNORMAL	SEVERE

WEAR METALS

method	limit/base	current	history1	history2	
Iron	ppm	ASTM D5185(m) >37	24	25	19
Chromium	ppm	ASTM D5185(m) >11	2	2	<1
Nickel	ppm	ASTM D5185(m) >5	3	4	2
Titanium	ppm	ASTM D5185(m)	<1	0	<1
Silver	ppm	ASTM D5185(m) >3	<1	<1	<1
Aluminum	ppm	ASTM D5185(m) >31	9	11	5
Lead	ppm	ASTM D5185(m) >26	5	12	11
Copper	ppm	ASTM D5185(m) >26	▲ 83	66	50
Tin	ppm	ASTM D5185(m) >4	<1	1	<1
Antimony	ppm	ASTM D5185(m)	0	<1	0
Vanadium	ppm	ASTM D5185(m)	0	0	<1
Beryllium	ppm	ASTM D5185(m)	0	0	0
Cadmium	ppm	ASTM D5185(m)	0	0	0

ADDITIVES

method	limit/base	current	history1	history2	
Boron	ppm	ASTM D5185(m) 0	5	4	11
Barium	ppm	ASTM D5185(m) 0	0	0	0
Molybdenum	ppm	ASTM D5185(m) 60	60	85	120
Manganese	ppm	ASTM D5185(m) 0	<1	<1	<1
Magnesium	ppm	ASTM D5185(m) 1010	928	912	883
Calcium	ppm	ASTM D5185(m) 1070	971	1111	1163
Phosphorus	ppm	ASTM D5185(m) 1150	990	949	916
Zinc	ppm	ASTM D5185(m) 1270	1084	1180	1159
Sulfur	ppm	ASTM D5185(m) 2060	2393	2460	2609
Lithium	ppm	ASTM D5185(m)	<1	<1	<1

CONTAMINANTS

method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185(m) >22	10	15	14
Sodium	ppm	ASTM D5185(m) >31	▲ 87	28	19
Potassium	ppm	ASTM D5185(m) >20	▲ 34	13	▲ 29
Fuel	%	ASTM D7593* >2.1	1.5	▲ 2.1	1.1
Glycol	%	ASTM D7922*	▲ 0.016	0.0	● 0.106

INFRA-RED

method	limit/base	current	history1	history2	
Soot %	%	ASTM D7844* >3	0	0.3	0.1
Nitration	Abs/cm	ASTM D7624* >20	6.8	7.8	7.2
Sulfation	Abs/.1mm	ASTM D7415* >30	20.2	20.7	21.3

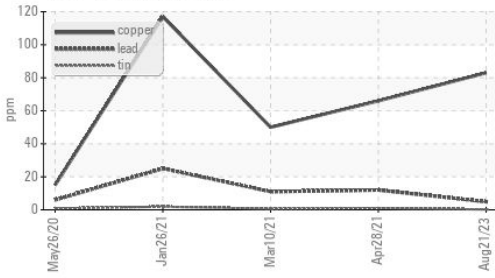
FLUID DEGRADATION

method	limit/base	current	history1	history2	
Oxidation	Abs/.1mm	ASTM D7414* >25	13.6	15.5	16.8



OIL ANALYSIS REPORT

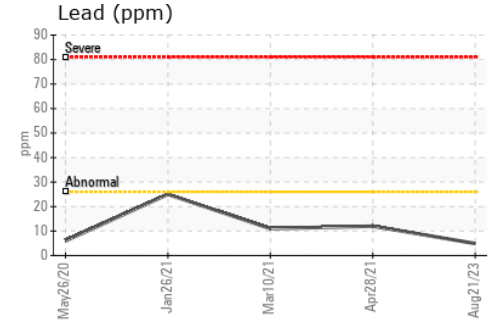
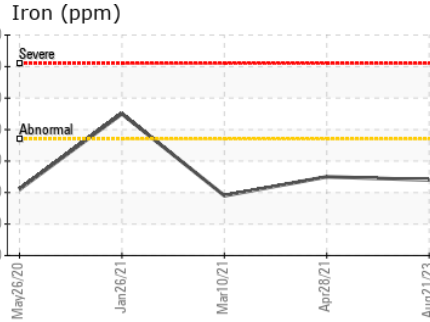
Non-ferrous Metals



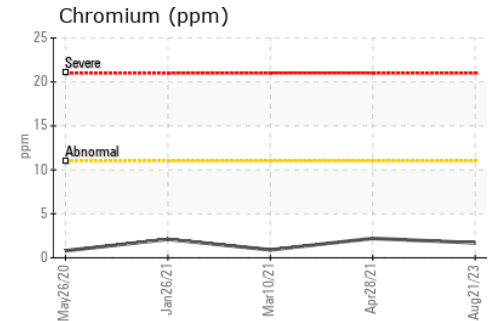
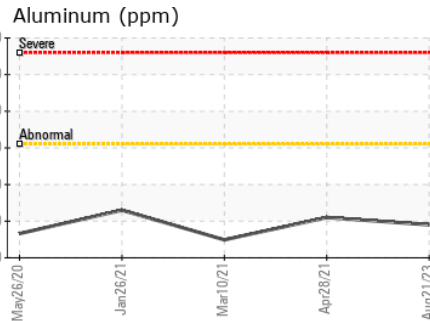
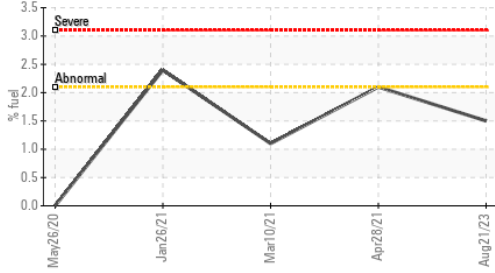
VISUAL	method	limit/base	current	history1	history2
Emulsified Water	scalar	Visual*	>0.21	NEG	NEG
Free Water	scalar	Visual*		NEG	NEG

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D7279(m)	15.6	13.3	12.5

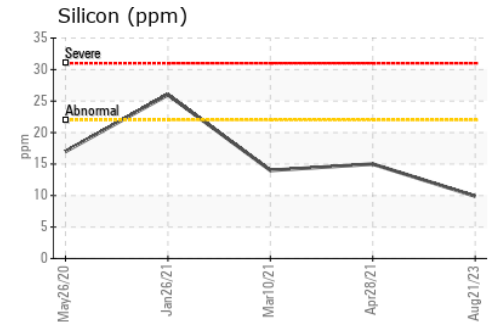
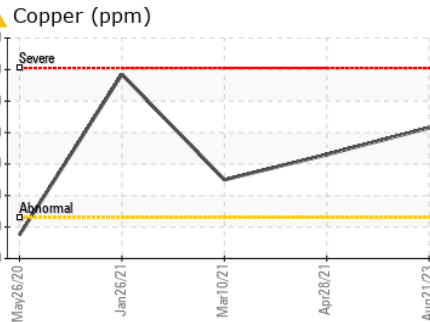
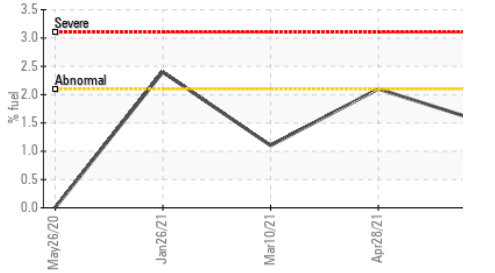
GRAPHS



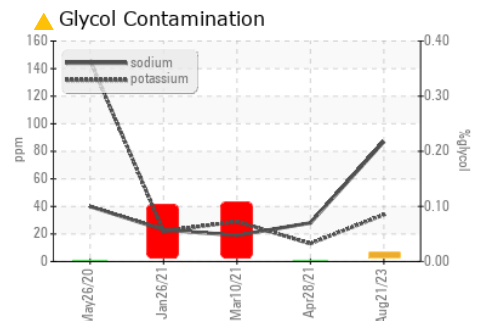
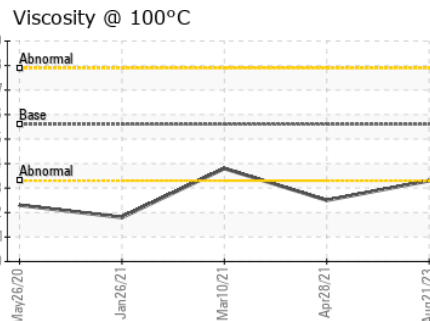
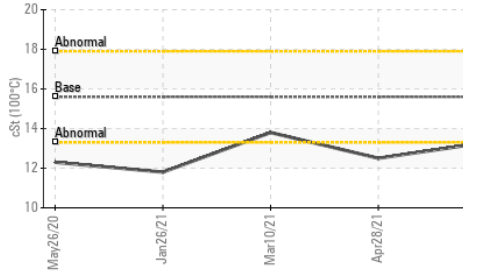
Fuel Dilution



Fuel Dilution



Viscosity @ 100°C



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 GFL Environmental - 720 - Lafleche - Landfill
Sample No. : GFL0092257 **Received** : 01 Sep 2023
Lab Number : 02579933 **Diagnosed** : 05 Sep 2023
Unique Number : 5632993 **Diagnostician** : Kevin Marson
Test Package : MOB 1 (Additional Tests: Glycol, PercentFuel)

To discuss this sample report, contact Customer Service at 1-800-268-2131.
 Test denoted (*) outside scope of accreditation, (m) method modified, (e) tested at external lab.
 Validity of results and interpretation are based on the sample and information as supplied.

17125 Lafleche Road,
 Moose Creek, ON
 CA K0C 1W0
 Contact: Charles Bergeron
 cbergeron@gflenv.com
 T: (613)538-4853
 F: